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EXAMINER	
WHIPKEY, JASON T	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,736	KAWAKAMI, CHIKUNI	
	Examiner	Art Unit	
	Jason T. Whipkey	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/3/04 and 8/27/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Restriction

1. Claim 27 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 4, 2004.

Claim Objections

2. Claim 15 is objected to as failing to comply with 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the electric energy" on line 4. There is insufficient antecedent basis for this limitation in the claim.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters not mentioned in the description: 6 (figures 10 and 11) and 8 (figures 10 and 11). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference characters in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign 2 mentioned on line 27 of page 14 in the description. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because line 23 on page 6 of the specification indicates that Figure 3 shows a system controller. It appears that Figure 4 is actually the system controller.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kishimoto (U.S. Patent No. 5,895,128).

Regarding **claim 1**, Kishimoto discloses an electronic flash of a camera (see Figure 15), comprising:

an electronic flash light source (ring flash 60) comprising a light emitting diode (LED units 62a-62d; see column 12, lines 16-17); and

a light emission control device (emission controller 12 in Figure 18) that makes the electronic flash light source emit light by supplying electric energy to the light emitting diode (see column 13, lines 26-32).

Regarding **claim 2**, Kishimoto teaches:

the electronic flash light source comprises R, G and B light emitting diodes (see column 12, lines 27-30).

Regarding **claim 3**, Kishimoto discloses that the electronic flash further comprises:

a color temperature setting device (color temperature correction levers 64A and 64B; see Figure 15) that manually sets a color temperature of the light emitted from the electronic flash light source (see column 12, lines 52-55),

wherein the light emission control device controls ratios between light emission amounts of the R, G and B light emitting diodes so that a color temperature of the light emitted from the electronic flash light source becomes the color temperature set by the color temperature setting device (see column 13, lines 26-32).

8. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Lebens (U.S. Patent No. 5,745,176).

Regarding **claim 1**, Lebens discloses an electronic flash of a camera, comprising:

an electronic flash light source (LEDs 25 in Figure 10) comprising a light emitting diode (see column 11, line 57); and

a light emission control device (power supply 20) that makes the electronic flash light source emit light by supplying electric energy to the light emitting diode (see column 11, line 52, through column 12, line 47).

Regarding **claim 5**, Lebens discloses:

a capacitor (C2 in Figure 10) with a large capacity that is charged by a battery (the supplied 12V signal; see column 11, lines 61-64),

wherein the light emission control device supplies the electric energy from the capacitor to the light emitting diode (see column 11, line 64, through column 12, line 3).

9. Claims 7-10, 12, 14, and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshiyama (U.S. Patent No. 4,485,336).

Regarding **claim 7**, Yoshiyama discloses an electronic flash of a camera (see column 2, line 20), comprising:

an electronic flash light source (20) that emits electronic flash light (see column 2, lines 64-68); and

an adjusting device (items on the bottom half of figures 3A and 3B) that adjust a color temperature of the electronic flash light emitted from the electronic flash light source (see column 11, lines 1-7).

Regarding **claim 8**, Yoshiyama teaches that the adjusting device comprises:

a color temperature setting device (setting member 24) that manually sets a color temperature of the electronic flash light (see column 3, lines 39-55 and 60-64); and

a light emission control device (variable resistors VR1 and VR2) that controls a color temperature of the electronic flash light to the color temperature set by the color temperature setting device (control occurs by varying the time of illumination of each flash tube; see column 6, lines 16-29).

Regarding **claim 9**, Yoshiyama teaches that the adjusting device comprises:

a color temperature determining device (inside window 21) that determines a color temperature of subject light (see column 3, lines 55-60); and

a light emission control device that controls a color temperature of the electronic flash light to the color temperature determined by the color temperature determining device (see column 13, lines 19-53).

Regarding **claim 10**, Yoshiyama teaches:

the color temperature determining device (photoelectric elements PR1, PG1, and PB1) has determining devices that convert color components of the subject light into electric signals and determines the color temperature of the subject light according to a ratio between determination signals of the determining devices (see column 10, lines 45-67).

Regarding **claim 12**, Yoshiyama teaches:

the electronic flash light source comprises a light emitting device (XR, XG, and XB) of which R, G and B light amounts are separately controlled (see column 3, lines 3-7, and column 4, lines 23-24).

Regarding **claim 14**, Yoshiyama teaches that the flash further includes:

a capacitor (C7, C8, and C9) with a large capacity that is charged by a battery (BA1; see column 4, lines 19-21),

wherein the adjusting device (control circuit 13) supplies the electric energy from the capacitor to the light emitting device (see column 4, lines 29-31).

Regarding **claim 16**, Yoshiyama teaches:

the adjusting device adjusts the color temperature of the electronic flash light by controlling ratios between the R, G and B light amounts of the light emitting device (see column 13, lines 54-62).

Regarding **claim 17**, Yoshiyama teaches:

the light emitting device comprises R, G and B light emitting devices (see column 3, lines 3-7).

Regarding **claim 18**, Yoshiyama teaches:

the adjusting device controls the ratios between the light emitting amounts from the R, G and B light emitting devices by separately turning on and off the R, G and B light emitting devices (see column 13, lines 54-62).

Regarding **claim 19**, Yoshiyama teaches that the adjusting device comprises:

a light adjusting sensor (photoelectric elements PR3, PG3, and PB3; see figures 5(a) and 5(b)) that determines one of an amount of reflected light from a subject emitted from one of the R, G and B light emitting devices of which light emitting amount is smallest among the R, G and B light emitting devices and an amount of reflected light from the subject emitted from the R, G and B light emitting devices (see column 13, lines 54-62, and column 16, lines 29-31);

a first light emission controlling device (flash stop 5) that stops light emission of the one of the R, G and B light emitting devices when the one of the amounts determined by the light adjusting sensor reaches a predetermined reference value (VE) according to the ratios between the light emitting amounts from the R, G and B light emitting devices (see column 14, lines 38-46);

a measuring device (timer TI) that measures a light emitting time of the one of the R. G and B light emitting devices (see column 16, lines 18-23, and column 17, lines 48-51);

a calculating device (see Figure 5(b)) that calculates light emitting times of others of the R, G and B light emitting devices according to the light emitting time measured by the measuring device and the ratios between the light emitting amounts from the R, G and B light emitting devices (see column 17, lines 3-47); and

a second light emission controlling device (comparators AC2 and AC3) that stops light emission of the others of the R, G and B light emitting devices according to the light emitting times calculated by the calculating device (see column 17, lines 3-47).

Regarding **claim 20**, Yoshiyama teaches that the adjusting device comprises:

a device (see figures 5(a) and 5(b)) that turns on and off the R, G and B light emitting devices with duty ratios corresponding to the ratios between the light emitting amounts from the R, G and B light emitting devices (see column 13, lines 54-62; column 14, lines 38-46; column 16, lines 18-23; and column 17, lines 3-47);

a light adjusting sensor (photoelectric elements PR3, PG3, and PB3; see figures 5(a) and 5(b)) that determines an amount of reflected light from a subject emitted from the R, G and B light emitting devices (see column 13, lines 54-62, and column 16, lines 29-31); and

a light emission controlling device (flash stop 5 and comparators AC2 and AC3) that stops light emission of the R, G and B light emitting devices when the amount determined by the light adjusting sensor reaches a predetermined reference value (see column 14, lines 38-46, and column 17, lines 3-47).

Regarding **claim 21**, Yoshiyama teaches that the adjusting device comprises:

a device (see figures 5(a) and 5(b)) that turns on and off R, G and B light emitting devices of numbers according to the ratios between the light emitting amounts from the R, G and B light emitting devices (see column 13, lines 54-62; column 14, lines 38-46; column 16, lines 18-23; and column 17, lines 3-47);

a light adjusting sensor (photoelectric elements PR3, PG3, and PB3; see figures 5(a) and 5(b)) that determines an amount of reflected light from a subject emitted from the R, G and B light emitting devices (see column 13, lines 54-62, and column 16, lines 29-31); and

a light emission controlling device (flash stop 5 and comparators AC2 and AC3) that stops light emission of the R, G and B light emitting devices when the amount determined by the light adjusting sensor reaches a predetermined reference value (see column 14, lines 38-46, and column 17, lines 3-47).

10. Claims 7, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa (U.S. Patent No. 6,081,076).

Regarding **claim 7**, Ogawa discloses an electronic flash (xenon discharge tube 10) of a camera (see Figure 1), comprising:

an electronic flash light source (xenon discharge tube 10) that emits electronic flash light (see column 8, lines 48-50); and

an adjusting device (color measuring circuit 62) that adjust a color temperature of the electronic flash light emitted from the electronic flash light source (see column 9, lines 1-8).

Regarding **claim 22**, Ogawa teaches that the flash includes:

a white light source (xenon discharge tube 10) that emits white electronic flash light; and

color filters (filter sections 46a-46d) that are arranged movably in front of the white light source (see column 17, lines 31-50),

wherein the adjusting device adjusts the color temperature of the electronic flash light by moving at least one of the color filters in front of the white light source (see column 17, lines 31-50).

Regarding **claim 23**, Ogawa discloses an electronic camera that stores color image signals (see column 21, lines 54-56) of a subject image captured with a taking lens (see column 21, lines 32-34) and an imaging device (CCD 311), the electronic camera comprising:

a color temperature determining device (color measuring control circuit 324) that determines a color temperature of subject light before a shooting (see column 21, lines 57-62);

an electronic flash light source (first and second flash light emitters 326 and 327) that emits electronic flash light (see column 22, lines 8-11);

an automatic white balance correcting device (white balance adjusting circuit 314) that corrects a white balance of the color image signals according to the color temperature determined by the color temperature determining device at the shooting irrespective of light emission of the electronic flash light source (see column 22, lines 1-5); and

an adjusting device (system controller 322) that adjusts a color temperature of the electronic flash light to the color temperature determined by the color temperature determining device (see column 22, lines 8-10).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto in view of Yoshiyama.

Claim 4 may be treated like claim 2. Additionally, Kishimoto teaches that:

the light emission control device (emission controller 12) controls ratios between light emission amounts of the R, G and B light emitting diodes so that a color temperature of the light emitted from the electronic flash light source

becomes the color temperature determined by the color temperature determining device (see column 13, lines 29-32).

Kishimoto is silent with regard to including a color temperature determining device. Yoshiyama discloses:

> a color temperature determining device (within window 21) that determines a color temperature of subject light (see column 3, lines 55-60),
>
> wherein the light emission control device controls ratios between light emission amounts of the R, G and B light emitting diodes so that a color temperature of the light emitted from the electronic flash light source becomes the color temperature determined by the color temperature determining device (see column 13, lines 54-62).

An advantage of including a color temperature determining device is that a white balance correction may be automatically performed that is most appropriate to the subject's lighting. For this reason, it would have been obvious at the time of invention to have Kishimoto's flash include a color temperature determining device.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto in view of Gudenburr (U.S. Patent No. 6,744,469).

Claim 6 may be treated like claim 1. However, Kishimoto is silent with regard to including a temperature sensor for use in obtaining a desired light emission amount.

Gudenburr describes various systems used to measure and compensate for the effects of heat on camera illumination systems, including:

a temperature sensor (such as a thermistor; see column 1, lines 63-66) that determines a peripheral temperature of the light emitting diode (see column 1, lines 35-37),

wherein the light emission control device controls the electric energy to obtain a desired light emission amount according to the peripheral temperature determined by the temperature sensor (see column 1, lines 41-52).

An advantage of compensating for temperature effects on a camera illumination system is that a consistent illumination level may be applied (see column 1, lines 42-43). For this reason, it would have been obvious at the time of invention to have Kishimoto's illumination device include a temperature sensor.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyama in view of Lu (U.S. Patent No. 5,504,524).

Claim 11 may be treated like claim 9. However, Yoshiyama is silent with regard to determining the color temperature of the subject light using the camera's imaging device.

Lu discloses a color balance apparatus, wherein:

the color temperature determining device (digital color balance controller 10 in Figure 2) determines the color temperature of the subject light according to color image signals of a subject image captured by an imaging device (image detector 3) of the camera (see column 6, lines 35-43).

As stated in column 1, lines 30-36, and line 65 through column 2, line 3, an advantage of using a signal from an imaging device to determine color temperature is that a separate sensor is

not necessary, thus reducing manufacturing complexity and cost. For this reason, it would have been obvious at the time of invention to have Yoshiyama's system use the signal from the image sensor to determine the color temperature of the ambient light.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyama in view of Kishimoto.

Claim 13 may be treated like claim 12. However, Yoshiyama is silent with regard to the light emitting device comprising one of a light emitting diode, an organic electroluminescence light emitting device, and a plasma light emitting device.

Kishimoto discloses an electronic flash that includes light emitting diodes 501 (see column 3, lines 17-20, and Figure 3). Advantages of using LEDs over a xenon tube include a faster response speed, lower power consumption, and a longer service life. For these reasons, it would have been obvious at the time of invention to have Yoshiyama's flash use LEDs to illuminate the subject.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyama in view of Gudenburr.

Claim 15 may be treated like claim 12. However, Kishimoto is silent with regard to including a temperature sensor for use in obtaining a desired light emission amount.

Gudenburr describes various systems used to measure and compensate for the effects of heat on camera illumination systems, including:

a temperature sensor (such as a thermistor; see column 1, lines 63-66) that determines a peripheral temperature of the light emitting device (see column 1, lines 35-37),

wherein the adjusting device controls the electric energy to obtain a desired light emission amount according to the peripheral temperature determined by the temperature sensor (see column 1, lines 41-52).

An advantage of compensating for temperature effects on a camera illumination system is that a consistent illumination level may be applied (see column 1, lines 42-43). For this reason, it would have been obvious at the time of invention to have Yoshiyama's illumination device include a temperature sensor.

17. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Lu.

Claim 24 may be treated like claim 23. However, Ogawa is silent with regard to determining the color temperature of the subject light using the camera's imaging device.

Lu discloses a color balance apparatus, wherein:

the color temperature determining device (digital color balance controller 10 in Figure 2) determines the color temperature of the subject light from the color image signals of the subject image captured with the taking lens and the imaging device (image detector 3; see column 6, lines 35-43).

As stated in column 1, lines 30-36, and line 65 through column 2, line 3, an advantage of using a signal from an imaging device to determine color temperature is that a separate sensor is

not necessary, thus reducing manufacturing complexity and cost. For this reason, it would have been obvious at the time of invention to have Ogawa's system use the signal from the image sensor to determine the color temperature of the ambient light.

18. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Yamamoto.

Regarding **claim 25**, Ogawa discloses an electronic camera that stores color image signals (see column 21, lines 54-56) of a subject image captured with a taking lens (see column 21, lines 32-34) and an imaging device (CCD 311), the electronic camera comprising:

a color temperature determining device (color measuring control circuit 324) that determines a color temperature of subject light (see column 21, lines 57-62);

an electronic flash light source (first and second flash light emitters 326 and 327) that emits electronic flash light (see column 22, lines 8-11); and

an adjusting device (system controller 322) that adjusts a color temperature of the electronic flash light to the color temperature read by the designating device (see column 22, lines 8-10).

Ogawa is silent with regard to recording a color temperature and reading the recorded color temperature to correct the white balance of a captured image. Yamamoto discloses:

a recording device (memories 16a and 16b) that records at least one color temperature (Cb1 and Cr1) determined by the color temperature determining device (see column 7, lines 30-31, and column 8, lines 16-19);

a designating device (multiplexer 13c) that reads the color temperature recorded in the recording device (see column 8, lines 22-25);

an automatic white balance correcting device (amplifiers 5a, 5b, and 5c) that corrects a white balance of the color image signals according to the color temperature read by the designating device (see column 8, lines 16-21);

As stated in column 8, lines 37-44, an advantage of storing a color temperature reading and reading it to perform white balancing is that a measurement of light can be performed when such a measurement can be done accurately, thereby allowing the measurement to be recalled under less ideal measurement conditions. For this reason, it would have been obvious at the time of invention to have Ogawa's camera store a measured color temperature and recall it for later use.

19. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Yamamoto and further in view of Lu.

Claim 26 may be treated like claim 25. However, Ogawa is silent with regard to determining the color temperature of the subject light using the camera's imaging device.

Lu discloses a color balance apparatus, wherein:

the color temperature determining device (digital color balance controller 10 in Figure 2) determines the color temperature of the subject light from the color image signals of the subject image captured with the taking lens and the imaging device (image detector 3; see column 6, lines 35-43).

As stated in column 1, lines 30-36, and line 65 through column 2, line 3, an advantage of using a signal from an imaging device to determine color temperature is that a separate sensor is not necessary, thus reducing manufacturing complexity and cost. For this reason, it would have been obvious at the time of invention to have Ogawa's system use the signal from the image sensor to determine the color temperature of the ambient light.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Whipkey, whose telephone number is (571) 272-7321. The examiner can normally be reached Monday through Friday from 9:00 A.M. to 5:30 P.M. eastern daylight time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached at (571) 272-7308. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JTW

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April 13, 2005

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